

NOTES ON QUEENSLAND ORCHIDACEAE, I.

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Summary

Two new species of Orchidaceae from Cape York Peninsula are described. These are: *Dendrobium tozerensis* P. Lavarack sp. nov. and *Oberonia carnososa* P. Lavarack sp. nov. The following five orchids previously unrecorded in Australia are here recorded for the first time: *Bulbophyllum masdevalliaceum* Kranzlin, *B. leratii* (Schlechter) J. J. Smith, *Taeniophyllum malianum* Schlechter, *Eulophia pulchra* (Thouars) Lindl. and *Schoenorchis sarcophylla* Schlechter, while *Didymoplexus pallens* Griff. is recorded in north Queensland for the first time.

In the course of field work carried out on Cape York Peninsula during 1973-76 several interesting species of Orchidaceae were discovered. One is previously unrecorded in Queensland and five previously unrecorded in Australia, while two are here described as new species.

Didymoplexus pallens Griff., Calc. J. Nat. Hist. 4:383, t. 17 (1884); J. J. Sm., Orchid Java Fig. Atlas 1 f. 51 (1908); Dockr., Aust. Indig. Orchids 1:218 (1969).

COOK DISTRICT: Tully-Mission Beach Road, about 15 km from Tully, Jan 1975, Lavarack N. P. 2600.

This small saprophytic orchid has not previously been recorded from Queensland, although it has been collected in the Northern Territory and other locations from Indonesia to India. For some time a species of *Didymoplexus* has been known to occur in the coastal lowlands of the Cardwell area in Northern Queensland, but its identity remained unknown. This species showed little agreement with the figure in J. J. Smith's Figure Atlas of "Die Orchideen von Java" (copied by Dockrill in his "Australian Indigenous Orchids"). Recently some fluid-preserved material of the North Queensland species was sent to Mr. D. Blaxell (then Australian Botanical Liaison Officer at Kew) and he reported that the figures quoted above are misleading and that these specimens are a good match with the type drawing.

D. pallens is a small, delicate saprophyte which apparently flowers after the first soaking summer rains in December or January. It is a plant of the coastal Melaleuca-dominated forests and commonly occurs on small tussocks in areas which are otherwise swampy after heavy rain. It has been collected twice by the author in the area between Ingham and Tully in North Queensland, but possibly is a quite widespread plant in the humid tropics as it is very easily overlooked.

Each plant produces several flowers only one of which is open at any given time. The flowers are glistening white with a yellow-orange group of calli on the mid-line of the labellum. (See Figure 2a.)

Bulbophyllum masdevalliaceum Kränzlin, Bot. Jahrb. Syst. 34:251 (1904).

COOK DISTRICT: Cape York Peninsula, 4 km west of Hunter Point, 11°30'S; 142°47'E, Aug 1973, Lavarack N.P. 2509 (BRI 193838).

A locally abundant epiphyte in simple notophyll vine forest where it commonly occurs on trees with a fibrous or papery bark—notably *Acmena hemilampra* (F. Muell. ex F. M. Bailey) Merr. & Perry.

Plant consisting of a creeping rhizome with pseudobulbs about 2–3 cm apart. Pseudobulbs 2–4 cm long and 0.5–1 cm in diameter, tapered towards the apex and strongly grooved. Leaves lanceolate 6–12 × 2 cm with a petiole about 2–3 cm long. Inflorescence erect 10–16 cm, single flowered. Lateral sepals connate at the base, 5 cm long and 1 cm at the widest, produced into filiform “tails” 3 cm long; red-purple with a cream-yellow margin. Dorsal sepal 3 × 5 cm shortly caudate, the margins densely ciliate. Petals 5 mm, falcate, apiculate. Labellum delicately hinged with a smaller basal portion about 2–3 × 2 mm consisting of 2 short lateral lobes, purple in colour with a yellow throat; midlobe filiform 5–6 mm, yellow with a purple tip. Column erect 2–3 mm long and about 2 mm in diameter with 2 slender pointed steldia projecting above the anther.

This species belongs to the section *Sestochilus*. It is easily separated from the other Australian member of this section (*B. baileyi*) by the elongate lateral sepals and very small petals. It has been recorded from New Guinea, but not previously from Australia as the area in which it occurs has only recently become accessible.

B. masdevalliaceum Kränzlin is very similar to *B. blumei* (Lindl.) J. J. Smith var. *longicaudatum* J. J. Smith and Smith is of the opinion that “*B. masdevalliaceum* Kränzlin appears to me to be a large flowered form of the very variable *B. blumei*” (Smith 1911). However Schlechter disagrees with this stating “This plant (i.e. *B. masdevalliaceum*) is definitely distinct and not, as J. J. Smith suggests, a large variety of *B. blumei* (Lindl.) J. J. Smith.” (Schlechter 1928).

The Jardine River plants appear to agree well with the descriptions of both taxa. Mr. Don Blaxell of Sydney, while acting as Australian Botanical Liaison Officer at Kew compared a specimen of this plant with specimens of *B. masdevalliaceum* from New Guinea and the Solomon Islands and found them to be identical. For this reason and because of Schlechter’s opinion quoted above, I have elected to place the Jardine River species in Kränzlin’s *B. masdevalliaceum*.

Flowering time is uncertain, plants were collected in flower in August. (See figure 2b.)

Bulbophyllum leratii (Schlechter) J. J. Smith, Bull. Jard. Bot. Buitenzorg Ser. 28:25 (1912).

Cirrhopetalum leratii Schlechter, Repert. Spec. Nov. Regni Veg. 9:216 (1911).

COOK DISTRICT: Cape York Peninsula, Tozer Range, 12°45'S; 143°43'E; Sep 1975, Lavarack N.P. 3502 (BRI 201382).

A rather rare epiphyte growing in dense rainforest at an altitude of about 400 m.

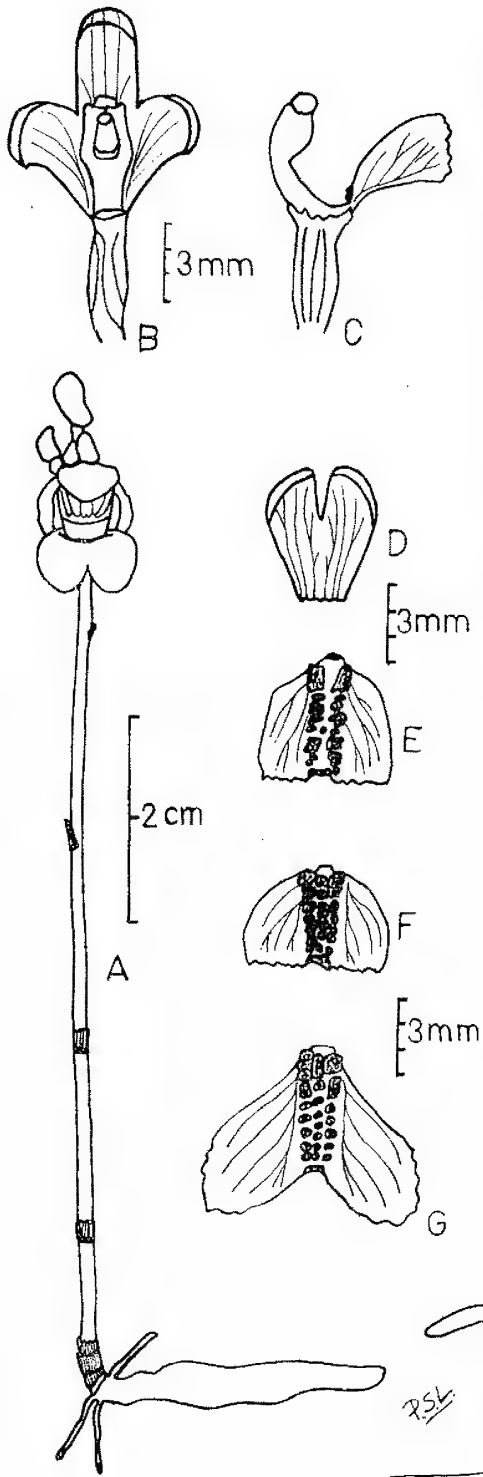


Figure 2a. *Didymoplexus pallens* Griff. A. Plant. B. Flower from the front, labelium removed. C. Flower from the side, petals and sepals removed. D. Lateral sepals. E, F, G. Labella from 3 plants, flattened out.

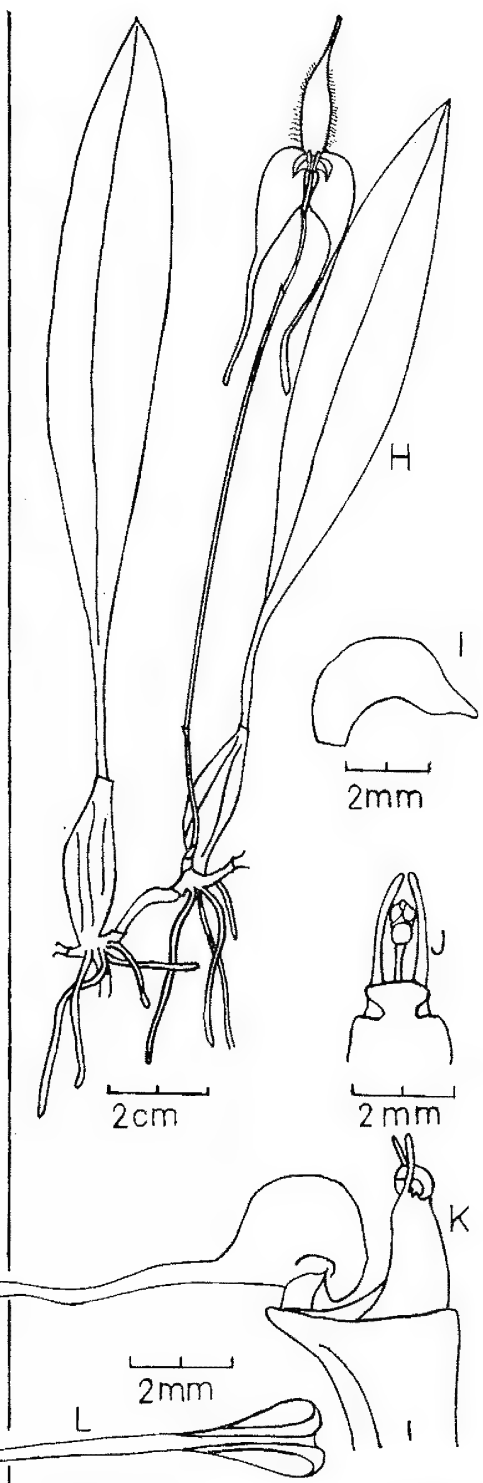


Figure 2b. *Bulbophyllum masdevallaceum* Kränzlin. H. Portion of plant. I. Petal. J. Column from the front. K. Flower from the side, petals and sepals removed. L. Labelium from above.

Plant consisting of a creeping rhizome with pseudobulbs 5–10 mm apart, 12–18 mm long and 10–15 mm in diameter, with 4 or 5 prominent angles. Leaves erect, oblong, shortly petiolate, 6–8 × 2–3.5 cm, rather thick. Inflorescence 15–25 cm long, umbellate with 6–10 flowers arranged in a circle. Lateral sepals purple-red, connate for the basal 5 mm, 16–22 mm long and 1.5 mm wide at the dilated base, the apices drawn out into long filiform tails. Dorsal sepal purple-red, consisting of an ovate cuculate basal part 2.5 × 2 mm fringed with moderately long cilia, and an apical filiform appendage 2 mm long. Petals purple-red, 6 × 1 mm at the broadest, with a filiform apical appendage, and with moderately long cilia on the basal half. Labellum white-cream, articulate on the column foot, recurved, fleshy, about 2 mm in length. Column 2 mm in length, with a prominent foot 2 mm long, steldia present only as two short teeth near the apex.

The author is indebted to Dr. Gunnar Seidenfaden of Copenhagen, Denmark for assistance in the identification of this species. Dr. Seidenfaden, the author of a recent work on the Cirrhopetalum section of the genus *Bulbophyllum* (Seidenfaden 1973) writes in a letter to the author: "I have been somewhat doubtful about this taxon (i.e. *B. leratii*) of which I did not succeed in getting the type specimen or other material. I felt that he (i.e. Schlechter) might just have a small specimen of *B. gracillimum* at hand. But clearly the flowers you sent me have lateral sepals that are only half as long as what is usual for *B. gracillimum* and it also seems from the picture that the leaves are relatively broader. So if these seem to be constant in the plants you now have living, I believe it would be reasonable to give Schlechter's plant specific status." Previously recorded from New Caledonia, this species appears to be limited in Australia to the Tozer and Janet Ranges, where it is by no means common. Vegetatively it is very similar to the other Australian member of the section Cirrhopetalum—*Bulbophyllum longiflorum* Thouars (*B. clavigerum* (R. D. Fitzg.) F. Muell.) but may be distinguished when in flower by the much more slender lateral sepals.

Most plants seen were growing low down on the trunks of rainforest trees in deep shade, but a few plants, including one in full flower, were seen on a windswept ridge growing on rather stunted trees. It appears to flower quite freely, each pseudobulb producing several inflorescences.

Flowering time is uncertain. Plants were collected in flower in September and have flowered in cultivation in February. (See Figure 3a.)

Taeniophyllum malianum Schlechter, Repert. Spec. Nov. Regni Veg. Beih. 1:1022 (1914) and fig., op. cit. t. 363 No. 1404 (1928).

COOK DISTRICT: Cape York Peninsula, McIlwraith Range, 13°52'S; 143°25'E; Sep 1975, Lavarack N.P. 3501 (BRI 201383).

A locally abundant epiphyte in rather open rainforest from about sea level to about 500 m altitude.

Plant consisting of a short stem (10–20 mm), with the leaves reduced to small bracts which in time split to leave a covering of short stiff hairs; roots green, about 1.5 mm thick, somewhat flattened about 20 cm long. Inflorescence 2–4 cm; peduncle long, glabrous; rachis short, glabrous with very small, deltoid, densely packed bracts. Up to 15 flowers opening singly, each borne on a very short pedicel. Sepals and petals similar, yellow, oblong, obtuse about 4.5 × 1 mm, the sepals slightly longer and broader than the petals. Labellum ovate, obtuse, indistinctly 3-lobed, 4 × 3 mm, yellow; spur 4.5 × 1.5 mm diameter at the widest, somewhat dilated at the distal end, almost in line with the midlobe.

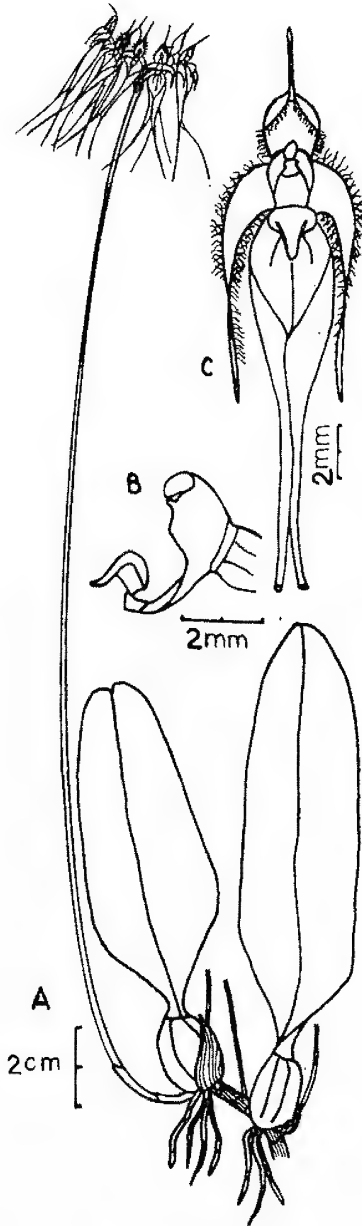


Figure 3a. *Bulbophyllum leratii* (Schlechter.) J. J. Smith. A. Portion of plant. B. Flower from the side, petals and sepals removed. C. Flower from the front (note: only half of lateral sepals shown).

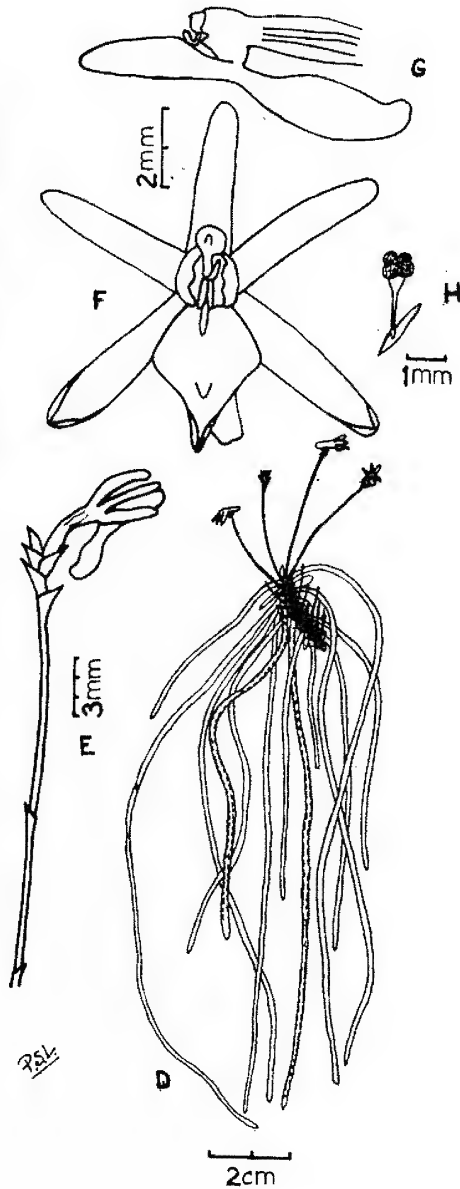


Figure 3b. *Taeniophyllum malianum* Schlechter. D. Plant. E. Inflorescence. F. Flower from the front. G. Flower from the side, petals and sepals removed. H. Pollinarium.

Column about 1 mm long with short acute stelidia. Anther with a prominent straplike rostrum about 0.8 mm long and sharply curved up. Pollinia 4, stripe about 1 mm, with a relatively large (about 1 mm) retinaculum.

This epiphyte of the low to moderate elevations of the McIlwraith Range usually grows low down on the tree trunks or on smaller branches, often forming a dense tangle of unattached or partly attached green roots. The flowers are yellow and no more than one per inflorescence opens at a given time. A large plant will produce 5 or 6 inflorescences.

T. malianum is quite similar to *T. flavum* Dockr. but may be distinguished by its generally much larger flowers and short, glabrous rachis.

Flowering appears to be spasmodic throughout the year with a possible emphasis on summer. (See Figure 3b.)

Eulophia pulchra (Thouars) Lindl., *Genera & Species Orchid*. Plants: 182 (1833).

Limodorum pulchrum Thouars, *Orch. Iles Austr. Afr.* tt. 43, 44 (1822).

Eulophia macrostachys Lindl. loc. cit. 183 (1833).

Eulophidium pulchrum (Thouars) Summerhayes, *Bull. Bt. Jard. Bruxelles* 27:400 (1957).

COOK DISTRICT: Cape York Peninsula, Nesbit River Area, 13°27'S; 143°28'E; Sep 1974, *Lavarack* 1077 (BRI 220604).

An uncommon terrestrial orchid occurring on hillsides in the dense shade of closed forests at low altitudes.

Pseudobulbs to about 15 cm long and 2 cm diameter tapering upwards. Leaves 2, lanceolate; lamina to 30 cm long and 10 cm broad, with 3 prominent veins; petiole to 10 cm long. Inflorescence arising from near the base of the pseudobulb up to 80 cm tall, of which the rachis makes up about half. Flowers numerous (at least 15 in the specimens examined) not opening widely, predominantly green with a few small areas of brown markings. Dorsal and lateral sepals similar, lanceolate 10–12 × 2.5–3 mm. Petals ovate 10–12 × 5 mm. Labellum, in the Australian specimens examined, similar to the petals, but slightly broader with a very shallow saccate base. (In overseas specimens the labellum is described as having a short spherical spur, a 3-lobed blade with the side lobes erect; midlobe much broader than long, broadly cleft, a divided callus at its base) Column 5 mm long × 2 mm with no apparent column foot.

The plants from which this description was compiled were collected on the western slopes of the Macrossan Range in 1974 and subsequently flowered in cultivation. Two inflorescences have been examined and both had flowers anomalous in that the labellum was undivided and, in most regards, represented a third petal while there was no indication of the production of pollinia. I am indebted to Mr. Peter Taylor of Kew who confirmed my suspicions about the identity of this species saying: "I have examined your material and compared it with material of *Eulophia pulchra* (Thou.) Lindl. (*E. macrostachya*), and in my opinion they belong to that species but are abnormal in having a slightly malformed column and third petal in lieu of a lip." (P. Taylor *in litt.*)

Whether all Australian plants of this species have these abnormalities remains to be proven. It was apparent that the flowers on the two inflorescences examined were self-pollinating.

E. pulchra is a widespread species having been previously recorded from Madagascar, Ceylon, India, Malaya, Philippines, New Guinea, New Caledonia and Fiji. Flowering appears to be confined to the winter months, about May to July. (See Figure 4a.)

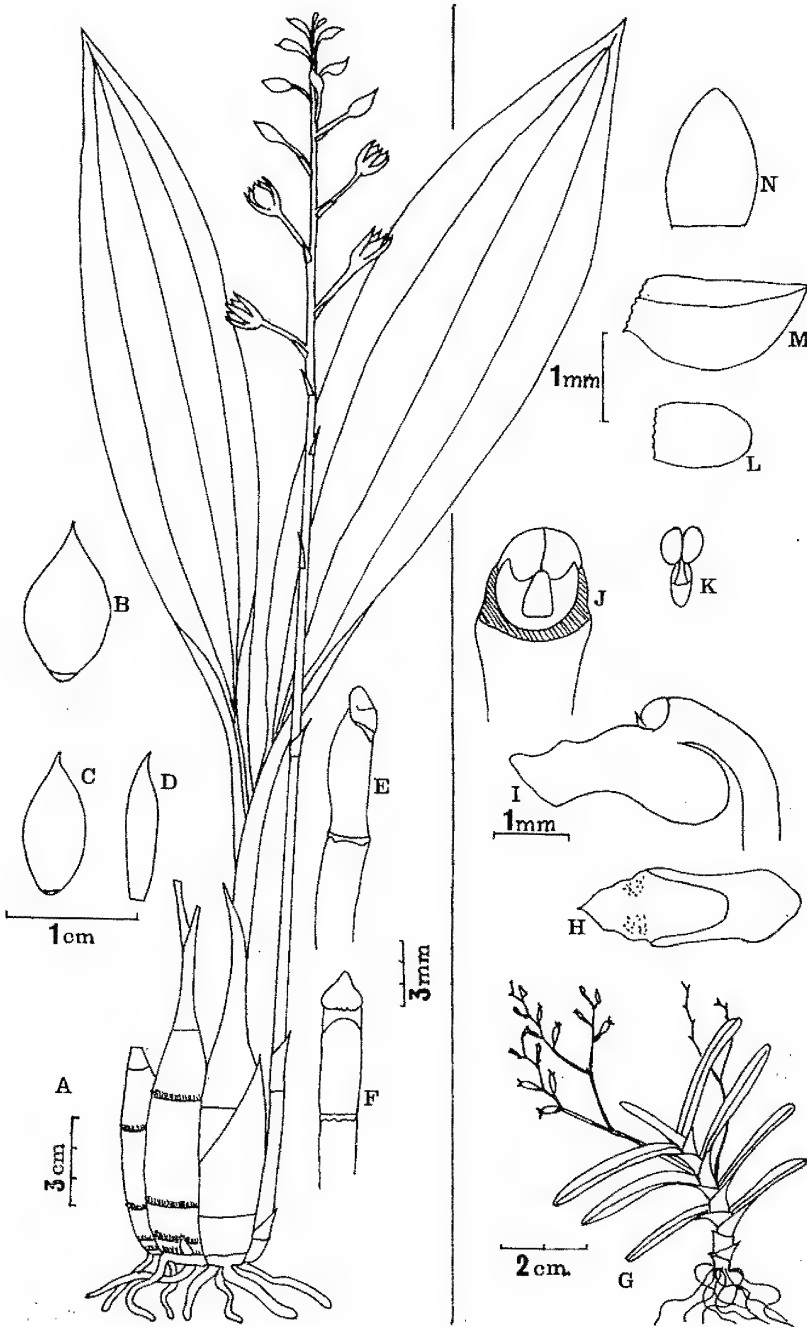


Figure 4a. *Eulophia pulchra* (Thouars) Lindl. A. Plant. B. Labellum. C. Petal. D. Sepal. E. Column from the side. F. Column from the front.

Figure 4b. *Schoenorchis sarcophylla* Schlechter. G. Plant. H. Labellum from above. I. Labellum and column from the side. J. Column from the front. K. Pollinia. L. Petal. M. Lateral sepal. N. Dorsal sepal.

Schoenorchis sarcophylla Schlechter, Repert. Spec. Nov. Regni Veg. Beih. 1:1022 (1914) and fig., op. cit. t. 347, No. 1340 (1928).

COOK DISTRICT: Cape York Peninsula, Leo Creek, 13°45'S; 143°23'E; Aug 1948, Brass 18848 (BRI 080716).

A rare epiphytic orchid at least in the Australian part of its range. Collected only from the outermost branchlets of *Tristania exiliflora* F. Muell. overhanging the fast-flowing Leo Creek at an altitude of 400 m.

Stems 1–5 cm long about 0.25 cm wide, branched in the larger specimens. Leaves linear, fleshy, channelled above, clasping the stem, up to 30 mm long and 4 mm wide. Inflorescence a sparsely branched panicle up to 5 cm long, with numerous very small flowers. Flowers white about 3 mm long. Dorsal sepal elliptical, obtuse, about 1.5 mm long and 1 mm wide; lateral sepals ovate about the same size as the dorsal sepal; petals smaller, oblong about 1 mm long and 0.75 mm wide. Labellum oblong 3 mm long, about 1 mm wide, with a well-developed spur about 0.8 mm long which is in line with the midlobe of the labellum. Lateral lobes small and not well defined, midlobe about 1 mm long. Column short and broad 0.8 mm long and 0.5 mm wide with a pair of minute sharply pointed stelia immediately below the anther. Pollinia 4, ellipsoid, attached by a short stipe to the retinaculum.

This small epiphyte has previously been recorded from New Guinea. Its range in Australia appears to be restricted, as it has only been seen in the vicinity of Leo Creek in the McIlwraith Range. *S. sarcophylla* may be readily distinguished from the other Australian member of the genus (*S. densiflora* Schlechter) by the position of the spur, which in *S. sarcophylla* forms a straight line or a very small angle with the midlobe of the labellum. In *S. densiflora* this angle is approximately 90°.

Flowering time is uncertain but plants have been collected in flower in August. (See Figure 4b.)

Dendrobium tozerensis P. Lavarack, species nova.

Epiphyticum, *D. baileyi* F. Muell. simile. Caules 20–60 × 0.1–0.2 cm internodiis circa 0.6–1.2 cm longis. Folia multa lineari-lanceolata, 3–8 × 0.4–0.8 cm apice inaequaliter biloba, retusa. Flores albi binatim. Sepala dorsalia et petala anguste triangularia, circa 15 × 2 mm, ad apicem acutum angustata. Sepala lateralia simularia praeter bases latiores. Labellum 8–10 × 4 mm lobis lateralibus deltoideis 3 × 1 mm, midlobo anguste triangulari 5 × 1.2 mm margine crenulato praedito et pilis sparsim obtecto, disco crista longitudinali unica praedito. Columna circa 4 × 1.5 mm pede circa 4 mm longo instructa. **Typus:** COOK DISTRICT: Tozer's Gap, Cape York Peninsula 12°43'S; 143°12'E, Aug 1975, Lavarack 990 (BRI 220603, holotypus).

Plants epiphytic, growing into large clumps. Stems 20–60 × 0.1–0.2 cm, leafy in the upper half, the lower half covered with the remains of the sheathing bases of the leaves; internodes about 0.6–1.2 cm long; leaves numerous, linear-lanceolate, tapering gradually towards the apex, 3–8 × 0.4–0.8 cm, apex unequally bilobed, base sheathing. Flowers white in all parts, borne in pairs on a short peduncle of about 0.5 cm and a pedicel of about 0.5 cm, from one to 3 pairs of flowers opening at any one time on any stem. Dorsal sepal, lateral sepals and petals all similar, narrowly triangular, tapering to an acute tip, about 15 × 2 mm, the lateral sepals slightly broader at the base. Labellum 8–10 × 4 mm; lateral lobes broadly triangular but with a rounded apex 3 × 1 mm; midlobe narrowly triangular 5 × 1.2 mm with a crenulate margin and sparsely covered

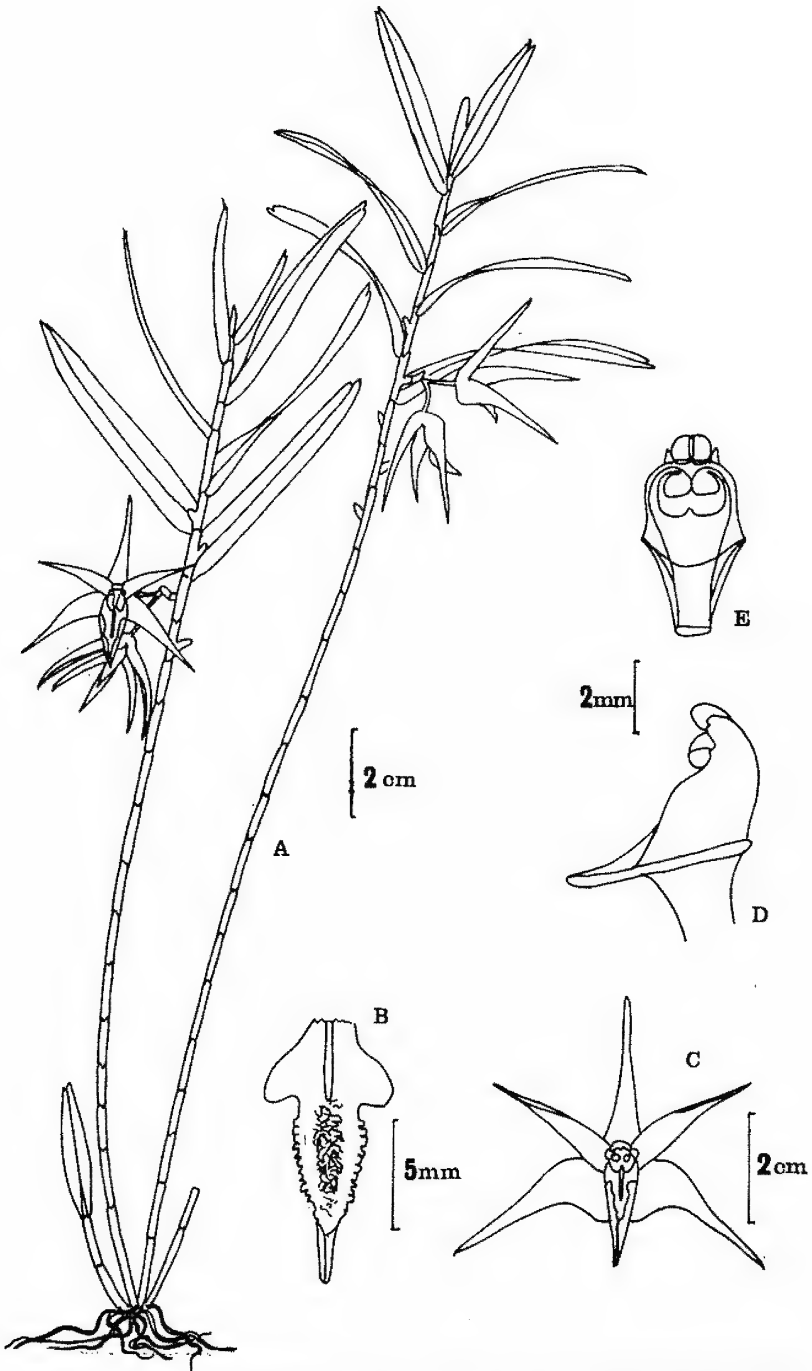


Figure 5. *Dendrobium tozerensis* P. Lavarack, sp. nov. A. Plant. B. Labellum from above (flattened out). C. Flower from the front. D. Column from the side. E. Column from the front.

in short hairs; disc with a single longitudinal crest. Column short, about 5×2.5 mm; with a column-foot about 4 mm long; stigma scutiform. Another about 1×1 mm, about 0.5 mm high, rostrum not developed.

In all the specimens examined (about 15 plants collected from localities as much as 5 or 6 km apart) three anthers were present, the two lateral anthers being in all regards similar to the median anther.

Vegetatively this plant closely resembles *D. baileyi* F. Muell. but may be separated from this when not in flower by the leaf tips which, in *D. tozerensis* are markedly unequally bilobed, while in *D. baileyi* they are only minutely so. Florally there are major differences in the shape of the floral segments. Flower colour is quite different being pure white for the former and yellow spotted with red or purple in the latter.

D. tozerensis has so far been collected only in the vicinity of Tozer's Gap where it is relatively common on the scattered trees growing on open rocky areas which occur in the midst of the rainforest. It occasionally grows on rocks. The flowering time appears to be during the summer in cultivation, but plants were collected in flower in September and it is possible it flowers spasmodically throughout the year. The flowers last for one day only before withering. (See Figure 5.)

***Oberonia carnosa* P. Lavarack, species nova.**

Folia 4-6, $0.5-2.5 \times 0.3-0.8$ cm, carnosa triangularia ab base ad apicem acutum obtusumve angustata. Inflorescentia 30-60 mm longa aurantiaca. Flores multi minuti aurantiaci circa 1 mm longi. Sepala 0.6×0.5 mm reflexa. Petala ovata margine crenulati-erosa, 0.8×0.6 mm. Labellum 1×0.7 mm, 3-lobatum, lobis lateralibus trapeziformibus 0.2×0.2 mm, midlobo 0.8×0.5 mm, margine laevi usque emarginato instructo. Columna 0.4×0.3 mm late alata. Anthera 0.2×0.2 mm rostra brevi sed prominenti praedita. **Typus:** COOK DISTRICT: Tozer's Gap, Cape York Peninsula $12^{\circ} 43' S$, $143^{\circ} 12' E$, Aug 1975, Lavarack 991 (BRI 220602, holotypus).

Plant epiphytic growing into small clumps. Leaves 4-6, $0.5-2.5 \times 0.3-0.8$ cm, ovate to deltoid usually tapering from the broad base to an acute or obtuse apex, fleshy and light green in colour. Inflorescence orange, 30-60 mm; the peduncle much shorter than the rachis with minute bracts arranged in whorls. Flowers numerous, minute about 1 mm long, also in irregular whorls; floral bracts about 0.8 mm long, ovary and pedicel about the same length. Sepals 0.6×0.5 mm, ovate, reflexed. Petals 0.8×0.6 mm, ovate, margins crenulate-erose. Labellum 1×0.7 mm, 3-lobed; lateral lobes 0.2×0.2 mm, trapeziform; midlobe 0.8×0.5 , oblong; margin smooth to minutely crenulate, base saccate, apex obtuse or occasionally emarginate. Column 0.4×0.3 mm broadly winged below the anther. Anther 0.2×0.2 mm with a short but prominent rostrum. Pollinia 4, in 2 pairs, each pair elliptical.

This plant has been collected only from the rocky areas at Tozer's Gap which were previously described. It is strictly epiphytic often growing adjacent to *Dendrobium tozerensis*.

While it is generally similar to one or two New Guinea species, *O. carnosa* appears to be most closely related to *O. brachystachya* Lindl. from South East Asia.

Flowering time appears to be from about February to June. (See Figure 6.)

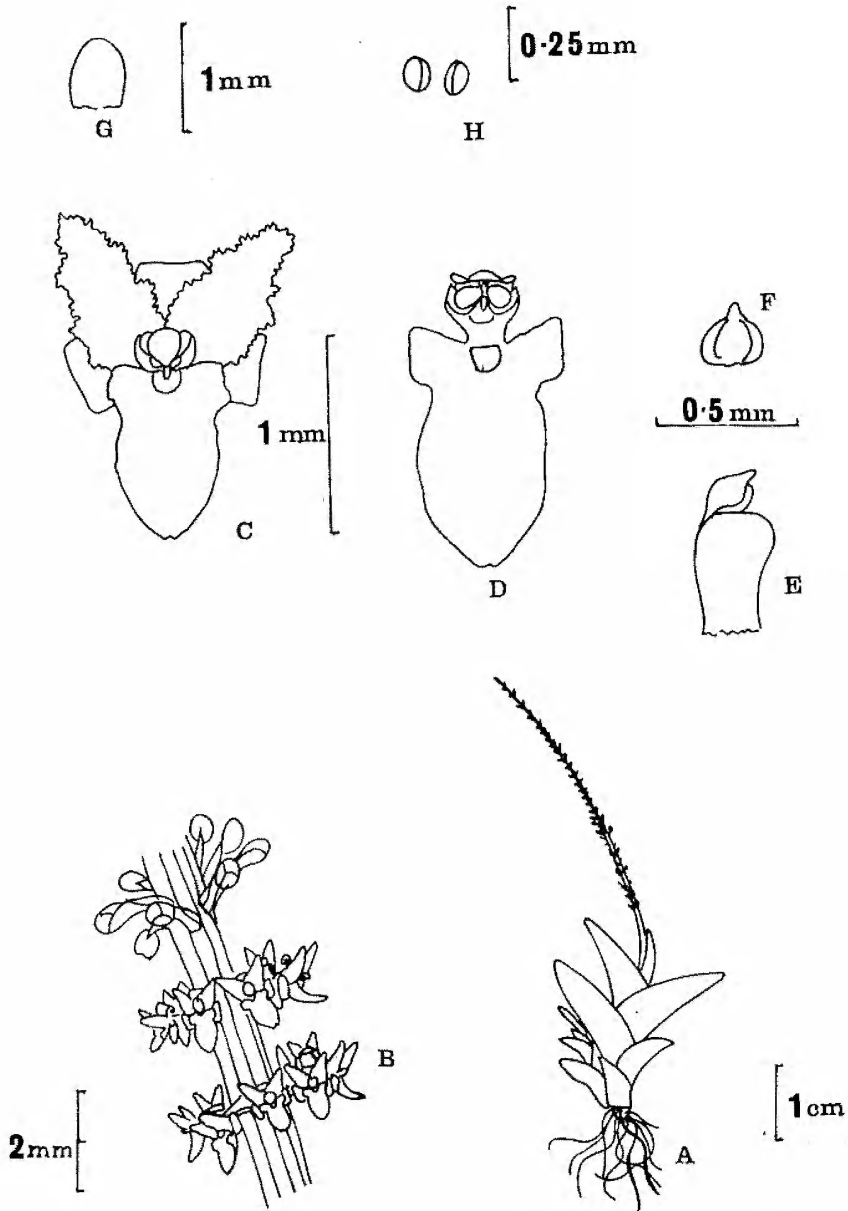


Figure 6. *Oberonia carnososa* P. Lavarack, sp. nov. A. Plant. B. Portion of inflorescence. C. Flower from the front. D. Labellum and column from the front. E. Column from the side. F. Anther from above. G. Petal. H. Pollinia.

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